VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590010

PROJECT REPORT ON

"EXPANDED POLYSTYRENE WALL PANEL"

Submitted by

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In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

In

CIVIL ENGINEERING

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI- 590018

Under the Guidance of

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CERTIFICATE

Certified that the project work entitled **"EXPANDED POLYSTYRENE WALL PANEL"** is a bonafide work carried out by

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ABSTRACT

The rapid population growth and urbanization have made a massive demand for the shelter and construction materials. Masonry walls are the major component in the housing sector and it has brittle characteristics and exhibit poor performance against the uncertain loads. Further, the structure requires heavier sections for carrying the dead weight of masonry walls. The present investigations are carried out to develop a simple, lightweight and cost effective technology for replacing the existing wall systems. The lightweight concrete is developed for the construction of sandwich wall panel. The EPS (Expanded Polystyrene) beads of 3 mm diameter size are mixed with concrete and developed a lightweight concrete with a density 15kN/m3 . The lightweight sandwich panel is cast with a lightweight concrete inner core and ferro cement outer skins. This lightweight wall panel is tested for in-plane compression loading. The experimental and analytical results were compared. The finite element study predicted the ultimate load carrying capacity of the sandwich panel with reasonable accuracy. The present study showed that the lightweight concrete is well suitable for the lightweight sandwich wall panels.